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**An exploration of the main sources of shame in an
eating disordered population**

Laura Keith¹

David Gillanders² (Corresponding Author)

Susan Simpson³

¹ Psychology Department, Lynebank Hospital, Halbeath Road, Dunfermline, Fife, KY11 4UW. Tel: +44(0)1383 565 403. Email: laurakeith@fife-pct.scot.nhs.uk

² University of Edinburgh, School of Health in Social Science, Medical School, Teviot Place, Edinburgh, EH8 9AG. +44(0)131 651 3946. Fax: +44(0)131 651 3971. Email: david.gillanders@ed.ac.uk

³ Eating Disorders Service, Fulton Clinic, Royal Cornhill Hospital, Aberdeen, AB25 2ZH. Tel: +44(0)1224 557 544. Email: ssimpson@nhs.net

Abstract

Objectives: Shame has received increased attention over recent years and has been shown to be a feature of many forms of psychopathology, including eating disorders. The current study contributes to this field by exploring relationships between shame and a variety of factors hypothesised to contribute to shame in a sample of 52 females with eating disorders.

Design: A cross-sectional questionnaire design was used.

Methods: Participants were 52 women, with eating disorders. They completed 6 questionnaires: The Experience of Shame Scale, the Parental Bonding Inventory, the Social Isolation sub-scale of the Young Schema Questionnaire, the Eating Disorder Diagnostic Scale and the Hospital Anxiety & Depression Scale.

Results: High levels of shame were observed, and not only shame around eating. A multiple regression analysis, with shame as the dependent variable and other variables as predictor variables revealed that the Social Isolation schema explained a substantial amount of total shame scores. Negative experiences of maternal care and eating disorder pathology also contributed a small but significant amount to the variance in shame scores.

Conclusions: People with eating disorders experience generalised shame in relation to many aspects of their self and behaviour, not just shame around eating. Implications for future research, including the importance of prospective longitudinal designs are discussed.

Shame is now recognised as a central element in many forms of psychopathology including anxiety and depression (e.g. Andrews, Qian, & Valentine, 2002; Gilbert, Pehl, & Allan, 1994). The experience of shame involves a sense of the self as being fundamentally flawed and defective, resulting in a desire to hide oneself. The shamed individual may feel small, self critical, worthless, unworthy of nurturance or love and want to hide from the attention of others (Lindsay-Hartz, 1984).

Prominent issues within shame research include the distinction between ‘dispositional shame’ and shame as a social phenomenon (Leeming & Boyle, 2004). Within the research tradition that has regarded ‘shame as a disposition,’ there are further distinctions, such as internal versus external shame (Gilbert, 1998; 2007; Kaufman 1989). Internal shame refers to the sense of self as defective and shame worthy, whilst external shame refers to the sense of oneself as a shame-worthy object in the minds of others (Gilbert, 2007). In addition to these conceptual distinctions in the shame literature, some authors have taken an approach that examines the specific aspects of experience about which one might be ashamed (Andrews, Qian and Valentine, 2002). A full review of these distinctions within the field of shame research is beyond the scope of this paper, though the reader is referred to Leeming & Boyle (2004) and Gilbert and Andrews (1998), as well as Tracy, Robins and Tangney (2007) for contemporary accounts of different perspectives on shame and psychopathology.

For the purpose of the current study, we were particularly interested in which aspects of the experience of shame are associated with eating disorder symptoms and other psychological factors hypothesised to be related to shame, such as early childhood experiences and the formation of core beliefs related to the self as different from peers, possibly related to bullying. It suited our purpose best to consider shame from the cognitive appraisal of the self perspective (i.e. that individuals are

ashamed of specific characteristics or behaviours). We have drawn predominantly on the work of Bernice Andrews and colleagues in our approach to shame and shame measurement.

This approach does mix up items related to internal shame (e.g. evaluations of the self as flawed or inadequate and associated feelings) and external shame (e.g. evaluations that others view the self as flawed or inadequate and the feelings associated with those appraisals (Gilbert, 2007)). The internal / external shame dimension is also strongly linked to literature on social rank and the evaluation of the self as a social inferior (Gilbert, 2000; Sloman & Gilbert, 2003; Cheung, Gilbert & Irons, 2003). Whilst an empirical investigation of these different aspects of shame (internal versus external) and social comparison in people with eating disorders would be of interest, the current study limits its focus to investigating shame about character and behaviour, as described in the work of Andrews (e.g. Andrews, Qian and Valentine, 2002).

Eating disorders have been described as “disorders of shame” (Kaufman, 1989). Indeed, many authors mention shame and guilt as feelings that are likely to precipitate and follow episodes of bingeing and purging (e.g., Fairburn, 1981; Johnson & Larson, 1982; Lingswiler, Crowther, & Stephens, 1989); however it is difficult to ascertain whether these emotions are primarily a cause or effect of the disordered behaviours.

Much of the research exploring shame in eating disorders has used non-clinical samples and correlational designs (e.g. Saftner, Barlow, Marshall & Tangney, 1995; Gee & Troop, 2003; Tiggemann & Lynch, 2001). Positive correlations have been consistently found between shame and eating disorder symptomatology in this research. Similar findings are observed in studies using clinical samples (e.g. Hayaki, Friedman, and Brownell, 2002). One study demonstrated a significant

relationship between shame and eating disorders, even after controlling for depressive symptomatology. In this research, Swan and Andrews (2003) compared levels of shame in women who had received treatment for an eating disorder with non-clinical controls. Findings showed the eating disorder group scored significantly higher than controls on all aspects of shame. Levels of bodily shame did not differ between the recovered and symptomatic women, suggesting that shame may be entrenched and resistant to change.

Research into the role of shame in eating disorders is still in the early stages. It is not yet clear whether shame is a vulnerability factor to developing eating pathology, a consequence of the disorder, part of the phenomenology of the disorder itself, or a combination of these. As most studies explore possible causes and consequences of shame within eating disorders in isolation, complex interactions between these remain unexplored.

The shame experienced by people with eating disorders may be linked to body shame, to bingeing and purging behaviour, as well as to not being able to eat in a natural way. Weiss, Katzman and Wolchik (1994) identified that bulimics tend to binge and purge in secret due to the shame they experience in relation to their eating. This can lead to them becoming isolated as they fear repelling others with their “abnormal” behaviours, thus preventing them from gaining support for their difficulties and contributing to their low self-esteem. The emphasis here is on the role of shame as a maintaining factor for bulimic behaviours. As a result of the high value placed on self-control in modern cultures, Skarderud (2003) views shame as a consequence of the loss of self-control associated with eating disorders. Likewise, in anorexia nervosa, individuals report shame and disgust following eating objectively small amounts of food and may feel ashamed of their desire for food. Patients often describe feeling betrayed by their bodies’ need to eat (Goss & Gilbert, 2002).

Research investigating factors which lead to the development of shame has predominantly focused on family factors. Lutwak and Ferrari (1997) explored the association between perceptions of parental bonding style during childhood (as measured by the PBI) and levels of shame at young adulthood. Shame was significantly negatively related to both maternal and paternal care and affection and positively related to maternal protectiveness and control. Chorpita and Barlow (1998) suggest that excessive psychological control by parental figures could engender shame, either indirectly by treating the child as weak and incapable (overprotection), or directly by devaluing the child (e.g., love withdrawal, criticism, belittling, ignoring, neglecting). The role of childhood experiences of humiliation and rejection in the development of beliefs of inner defectiveness or unlovability, and subsequent feelings of shame, has also been explored (e.g. Young & Klosko, 1994; Young, Klosko, & Weishaar, 2003).

Many studies have provided evidence associating poor perceived parenting and subsequent eating disorders (e.g. Calam, Waller, Slade, & Newton, 1990; Schmidt, Tiller, Blanchard, Andrews, & Treasure, 1997). It seems possible that the high level of shame observed in many individuals with eating disorders has its origins in these negative early experiences.

Goss and Gilbert (2002) suggest that those eating disordered individuals who have experienced traumatic histories or neglect may not have been given opportunities to learn alternative methods for discriminating between or regulating affective states. In this view, the individual is unable to tolerate powerful negative emotions and develops bingeing, purging or restrictive eating as strategies which help them to cope with these. These behaviours provide relatively effective short-term distractions from intolerable affect, either by blocking the thoughts and emotions (Heatherton

& Baumeister, 1991) or by helping the individual to avoid situations which may act as triggers for difficult emotions (Waller, Kennerly, & Ohanian, 2007). This perspective views shame as having a more causal role in the development of eating disorders, characterising disturbed eating as a method of avoiding schema activation.

Although beliefs developing in the context of dysfunctional family relationships are often considered to be most significant in understanding psychopathology, the contributions of other early experiences are worth exploring. An additional factor which is likely to be influential in the formation of shame-related beliefs is that of negative peer relationships.

Research linking bullying and/or teasing to eating disorders has focused on the role of teasing regarding one's appearance on subsequent body image (e.g., Cattarin & Thompson, 1994; Thompson, Covert, & Stormer, 1999). These authors cite negative social feedback as a possible aetiological factor in the development of body image-related dysfunction and eating disturbances. Cross-cultural studies have demonstrated that teasing about weight and size either mediate or partially mediate the relation between overall size (BMI) and body image disturbance (Lunner, Wertheim, Thompson, et al., 2000; van den Berg, Wertheim, Thompson, & Paxton, 2002). In turn, body dissatisfaction influences global psychological functioning, restriction and bulimic symptomatology (van den Berg et al., 2002). It is reasonable to hypothesise that these experiences may contribute to shame about the body, and possibly a global sense of shame. There is however, a dearth of literature exploring the impact of bullying on the development of shame.

Clearly there is little consensus regarding the role of shame within eating disordered individuals. Some see proneness to shame as a causal factor in the genesis of eating disorders, while others view

shame more as a consequence of having an eating disorder. It is likely that shame is both a cause and consequence of eating disordered behaviours. Skarderud (2003) suggests that the experience of shame can become self-perpetuating through dysregulating self-esteem and predisposing certain individuals to develop disordered eating. This in turn may lead to further shame about the behavioural expressions of the eating disorder.

The current research seeks to explore the main sources of shame within an eating disordered population and what proportion of the variance in shame scores are statistically accounted for by each of these factors. Specifically the study aims to identify the proportion of shame accounted for by negative early experiences, both from parents and other sources, schemata postulated to stem from such early experiences and the proportion of shame that is associated with problematic eating behaviours.

Method

Design

A cross sectional questionnaire based design was used to investigate the relationship between shame and eating pathology in a mixed sample of eating disordered patients. Multiple regression analysis was used to determine which of several hypothesised factors were most strongly predictive of overall shame. These factors were; depressed mood, recall of parenting experiences, schemata regarding the self and eating disorder pathology. The research proposal was approved by a local research ethics committee.

Power Calculation

Based on Cohen (1992), and assuming a large effect size, in order to detect an effect at the level of $p < 0.05$ with 80% power, a minimum of 38 participants would be necessary when entering 4 independent variables in a multiple regression analysis. (Cohen, 1992).

Measures

Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983)

Research has demonstrated consistent associations between shame and anxiety and depression (Gilbert and Andrews, 1998). It was therefore considered necessary to assess the contribution of these factors to shame in the regression analysis. The HADS is a 14 item self-report measure constructed to allow rapid and separate measure of anxiety and depression. It is widely used within research and clinical assessment (Herrmann, 1997).

Parental Bonding Instrument (PBI; Parker, Tupling & Brown, 1979)

Given the hypothesised relationship between early family environments and shame, the PBI was selected as a brief measure of perceived parenting style. The PBI (Parker et al., 1979) is a retrospective self-report 25-item questionnaire, examining perceived parental style in the first 16 years of life. The PBI scales have been found to have adequate psychometric properties, with test re-test reliability across a variety of clinical and non-clinical samples ranging from 0.63 – 0.92 (Parker, 1984). The PBI has been used frequently with eating disordered populations (e.g. Bulik, Sullivan, Fear & Pickering, 2000; Leung, Thomas & Waller, 2000; Palmer, Oppenheimer & Marshall, 1988), thus for purposes of comparison with these studies, was considered to be the optimal measure of family relationships for this research.

Experience of Shame Scale (ESS; Andrews et al., 2002)

The Experience of Shame Scale (ESS) is a self-report questionnaire derived from a semi-structured interview, which asks whether a person has felt ashamed of specific personal characteristics as well as their behaviour (Andrews & Hunter, 1997). The questionnaire assesses several dimensions of shame: 'Characterological' (i.e. shame about aspects of the self), 'Behavioural' (i.e. shame about actions and behaviours) and 'Bodily' shame (i.e. shame about physical characteristics). In addition, the items sum to a total score, with higher scores indicating more frequent and / or more intense experiences of shame. The total scale is reported to have a total Cronbach's alpha of 0.92, with a test-retest reliability of .83 over 11 weeks. The subscales have alpha scores of 0.86 – 0.90 and test-retest reliability of .74 - .86 (Andrews et al., 2002). Swan and Andrews (2003) extended the ESS to include an additional three-item scale to assess shame around eating. The current study used Swan and Andrew's modified version of the scale.

The Social Isolation Subscale of the Young Schema Questionnaire (YSQ; Young and Brown, 1990)

The Social Isolation Subscale of the Young Schema Questionnaire was selected as a suitable schema based questionnaire to measure maladaptive schemata that may have arisen as a result of early negative peer experiences. The Social Isolation subscale was selected to measure the belief that one is different to others, resulting from peer rejection, teasing and bullying (Young and Klosko, 1994). Although the YSQ is a non-standardised measure, the psychometric properties of the questionnaire have been investigated within various studies and found to be adequate (e.g. Schmidt, Joiner, Young, & Telch, 1995). Waller and his colleagues also found the YSQ to have good internal reliability and concurrent validity in a sample of bulimic women (all subscales were reported to have a Cronbach's alpha of >0.7; Waller, Meyer, Ohanian et al, 2001). For the purpose of conducting a regression analysis in this study, mean 'Social Isolation' scores were calculated for

individual participants. Scores ranged from 0-6 with higher means indicating higher dysfunction associated with this schema.

Eating Disorder Diagnostic Scale (EDDS; Stice, Telch & Rizvi, 2000)

The EDDS is a 22-item self-report scale that provides diagnoses of anorexia nervosa, bulimia nervosa and binge-eating disorder. Items on the EDDS were adapted from validated structured interviews that assess eating pathology and from DSM-IV diagnostic criteria for each of the eating disorders (Stice et al., 2000). The scale uses a combination of Likert, yes-no, and write-in response formats. Items can be summed to form an overall eating disorder symptom composite. Scores range from 0 to 112, with higher numbers indicating greater eating pathology (Stice & Ragan, 2002). Initial psychometric investigation found the measure to be both reliable and valid, with Cronbach's alpha for the total score reported as 0.91 and the 1 week test re-test reliability as 0.87 (Stice et al., 2000). In addition, the agreement between diagnoses generated by the EDDS and structured clinical interview was 99% for anorexia nervosa, 96% for bulimia nervosa and 93% for binge eating disorder (Stice et. al., 2000) Whilst these agreement statistics are impressive it is acknowledged that diagnoses generated by self report are not definitive. Satisfactory statistical properties have been demonstrated by the EDDS symptom composite derived from raw scores (E. Stice, personal communication, 5 April 2005) The diagnoses generated by the EDDS were used purely to describe participants. The main analysis of the relationship between shame, eating pathology, schema and early experiences used the total symptom composite.

Demographic Information

In addition to completing the measures described above, information was gathered on participant's age, gender, relationship status, history and current receipt of interventions and experience of bullying or teasing.

Bullying / Teasing

To reduce response burden on participants it was decided not to use a further questionnaire to assess bullying, but simply to ask as part of the demographic information if the participant had ever experienced bullying and / or teasing up to the age of 16. 11 individuals responded positively to this question, with 40 individuals saying No. One individual omitted this item.

Participants

Participants were recruited through a specialist out-patient eating disorder service in the north east of Scotland and a national charity, the Eating Disorders Association. Participants were required to meet criteria for a current eating disorder (as measured by the EDDS) and be fluent in English in order to participate. Whilst the EDDS is not able to ensure that participants meet clinical caseness, there is a high level of agreement between this measure and diagnoses derived from clinical interview.

Demographic Data

Of the 112 questionnaire packs that were sent out, 53 participants responded, giving a response rate of 47%. All participants were female. One participant was excluded from all subsequent analyses, as the EDDS was not completed sufficiently to establish whether she met the criteria for an eating

disorder. Thus, the final sample used for analysis contained 52 female participants. Nineteen (36.5%) of the participants were recruited through the eating disorders service, and 33 (63.5%) were recruited through the charitable organisation. The sample had a mean age of 33 years (SD: 10.6 years), 29% of the sample were married or cohabiting, 79% were currently in treatment for their eating disorder, with contacts with professionals ranging from 2 months to 11 years and 4 months (mean 4 years). The sample had a range of Body Mass Index scores, from 12.5 to 35, with a mean BMI for the sample of 20 (SD: 6.4).

The diagnostic categories represented by the sample comprised 30% Anorexia Nervosa, 35% Bulimia Nervosa, 5% Binge Eating Disorder and 30% Eating Disorder Not Otherwise Specified (EDNOS). The EDNOS group consisted of people who met all the criteria for Anorexia Nervosa but had a BMI above 17.5, and those who met the diagnosis for Bulimia Nervosa except their frequency of bingeing or other means of compensating was less than required to fully meet the criteria. Although the EDDS makes a distinction between BED and EDNOS, it is important to recognise that in the American Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994) BED comes under the EDNOS classification.

Data Analysis

The Statistical Package for the Social Sciences for Windows (SPSS v 14.0) was used to perform statistical analyses on the data collected. The assumptions of multiple regression (i.e. distribution and multicollinearity) were met. A stepwise linear regression was then performed to explore the relative contributions of the independent variables in explaining shame.

Results

There were no differences between the diagnostic groups generated by the EDDS on any of the other study variables. The EDDS symptom composite did differ significantly across diagnostic groups, such that individuals categorised as Bulimia Nervosa scored higher on this measure than either the Anorexia Nervosa or EDNOS group ($F=5.34$, $(df_{3,48}) p<0.005$). In addition, in order to rule out the possibility that individuals with extreme low weight could be unreliable respondents and / or skew the data, we compared the mean scores on all study measures for those individuals with a BMI of <15 and those with a BMI of 16 or over. There were 7 individuals with such extreme low weight, it was therefore not appropriate to use a t-test, given the differences in cell size. Using a Mann-Whitney U test, the only significant difference between individuals with extreme low weight and the rest of the sample was on the Experience of Shame Scale variable: Behavioural Shame (Median: BMI $<15 = 34$, BMI $>16 = 29.5$, $U = 74.5$, $p = 0.049$). Examining the distribution of these groupings showed that these seven extreme low weight individuals were within the same range of scores as the rest of the group and if included in the group analysis would be unlikely to introduce significant bias. Given that this was the only significant difference found and it is relatively small, it is assumed that these extreme low weight individuals are responding to the self report measures in a manner similar to the rest of the sample.

Primary Study Measures & Analysis

Table 1 summarises the descriptive statistics for all of the study variables. These were all found to adequately fit a normal distribution. Mean scores are high across all subscales, showing that in this sample participants are ashamed of their eating, their bodies, their behaviour and aspects of their character. These scores correspond to those previously quoted for eating disordered women who are currently symptomatic (Swan & Andrews, 2003). As we anticipated, scores of the ESS were highly

positively skewed. A log 10 transformation was used to normalise the distribution of these scores for the regression analysis.

In addition, Table 2 shows the correlations between these variables.

----- Insert Table 1 here -----

----- Insert Table 2 here -----

Multiple Regression Analyses

A stepwise linear regression was undertaken to explore the relative contributions of the independent variables (HADS depression, PBI maternal care, YSQ Social Isolation and EDDS symptom composite) in explaining shame (ESS total score), in an eating disordered population (Table 3).

----- Insert Table 3 here -----

Analyses indicate that the best predictors of shame were strength of Social Isolation schema, low maternal care, and severity of eating disorder symptomatology, $F_{(3, 47)}=17.87$, $p<.05$. These variables explained 50% of the variance (Adjusted $R^2 = .503$), the majority of which comes from YSQ Social Isolation (Adjusted $R^2 = .418$; 42%). Lack of Maternal Care contributes approximately a further 4.5% of the variance, with eating disorder pathology contributing a further 3.5 %.

These results suggest that shame in eating disorders is primarily associated with beliefs about the self as different and that these beliefs are only weakly associated with perceptions of family function. In addition, these maladaptive beliefs are not strongly associated with current eating

disorder pathology. These individuals do appear to experience significant shame in response to their eating behaviours though eating is only one source of a generalised experience of shame, manifesting across many dimensions including shame around one's character, behaviour and body as well as eating behaviours.. Running the same analysis with shame around eating as the dependant variable resulted in a similar pattern of results, with only the schema variable being strongly predictive of eating related shame. Eating disorder symptoms do not strongly predict the experience of either generalised or eating specific shame. Similar results were observed with the other aspects of shame (shame about behaviour and characterological shame) as the dependant variable.

Depression was not found to make a significant independent contribution to the variance in shame. It can therefore be concluded that in this sample, maladaptive self beliefs and to a lesser degree, negative parenting experiences and current eating pathology partly account for the occurrence of generalised shame in individuals with eating disorders, independent of the individuals' level of depression.

Bullying / Teasing

We compared the scores of those in our sample who had been bullied and those who had not on all of the main questionnaire measures, using Mann-Whitney U tests. The choice of non-parametric tests was based upon uneven group sizes (11 reporting bullying; 40 not reporting bullying) and unequal variance between these groupings on several of the study measures. The bullying variable resulted in significant differences on only the YSQ Social Isolation measure, ($U=130.5$, $p<0.025$). This could be taken as support for the suggestion that negative peer interactions are a significant factor which influences the development of the Social Isolation schema.

Discussion

The results reveal that the Social Isolation schema, lack of maternal care and eating disorder pathology together can explain approximately half the variance across the shame measure, with the Social Isolation schema independently contributing the majority of this. These results could be interpreted to support existing literature which suggests that within eating disorders, shame often arises as a result of negative early experiences but is exacerbated and maintained through secondary shame in relation to the eating behaviours. Of course, these results are cross sectional and can not be used to infer the casual role of shame in the development or maintenance of eating disorders. Only prospective longitudinal designs will be able to answer that question. The data do suggest however, that further study is warranted into the possible causal relationship between early maladaptive schemata, experiences of self-conscious emotions such as shame, and the development of eating disorders.

In concurrence with the views of Young et al. (2003) we tentatively propose that through attempting to make sense of negative interactions with peers (and to a lesser extent parents), some children attribute these unpleasant experiences to characteristics inherent in themselves. Through experiences of feeling rejected or unworthy of love from parental figures and being devalued or alienated by peers, a person develops a sense of themselves as 'different' to others, leading to the development of negative self-evaluation and a range of self-conscious affects, including shame. The inclusion of other YSQ subscales (e.g. defectiveness) in the future could be used to explore this further.

The current study may have implications for therapy in that they support Swan and Andrews (2003) findings of significant experiences of different types of shame in people with eating disorders and not only shame about eating. In Swan & Andrews study, a substantial proportion of patients (42%) admitted to concealing aspects of their difficulties from their therapist, with clear implications for engagement, accurate assessment and the development of the therapeutic relationship.

The results of the current study also suggest that even after therapies have successfully reduced eating disorder pathology, significant issues around generalised shame may remain. If, as our results suggest, that a significant proportion of this shame is related to the individuals' belief and sense that they are different or alienated from others, therapeutic efforts that maximise the person's sense of connection with others and similarity to others could usefully target these factors. For a proportion of people, it may be that following successful resolution of eating disorder symptoms, psychological intervention at a schema level would be helpful, particularly where such treatment targets the attempts to hide or conceal that are so associated with the experience of shame.

The current research identified several associated areas of research worth pursuing. Firstly, more research on the impact of bullying in childhood on the development of eating disorders could enhance our understanding of eating disorders aetiology. Further exploration of the role of bullying on the development of maladaptive schemata and subsequent development of shame seems to be an important area of future research.

Several limitations of this study are identified and should be acknowledged in the interpretation of the current results. The measures used in the study were chosen on the basis of their robust

psychometric properties and their use across comparable studies. However, a number of issues should be highlighted. The EDDS symptom composite scores for individuals with bulimia nervosa were significantly higher than those of individuals with a diagnosis of either anorexia nervosa or EDNOS. The EDDS is primarily a diagnostic scale and therefore the composite score (i.e. summing episodes of bingeing, vomiting and fasting) may not reflect actual severity of difficulties, particularly for those with Anorexia Nervosa (non-purging). However, shame is theoretically more closely linked with behaviours of bingeing and vomiting than to restricting (Schmidt, et al., 1997), thus the measure is likely to have served the purpose for which it was chosen.

Within the PBI, participants were required to recall past experiences with their parents, raising the possibility of selective memories in their retrospective reports. Results may reflect the fact that some people were more willing to acknowledge negative events and experiences. However a review of studies examining adult memories of early parenting, suggests that such recall may be adequately reliable and consistent (Brewin, Andrews, & Gotlib, 1993). In addition, the PBI tends to focus on the presence or absence of positive valuing signals, without measuring directly more negative signals such as shaming. It is possible that it is the presence of more negative shaming interactions, rather than the absence of positive aspects of the parent-child relationship that are more significant in the development of shame and psychopathology.

The sample size was sufficient for the analysis but was nonetheless relatively small. In addition, as no male participants were recruited to the study the results can not be generalised to men with eating disorders. The current study has produced results worthwhile of replicating with a larger sample, and with a male sample. Finally, occurrence of bullying/teasing was measured using only a

yes/no item.. It can not be established whether the bullying reported by this sample was specifically in relation to appearance.

Conclusion

This study provides further evidence of the experience of shame in people with eating disorders and suggests that this shame is of a more general nature than simply shame about eating disturbance. Results also highlight the importance of exploring both early experiences and current symptoms as sources of shame in the assessment and treatment of eating disordered individuals. The authors suggest that future research on the development of shame in eating disorders would benefit from expanding on the current focus on the role of early family interactions in order to include the potentially crucial impact of peer relationships. The study suggests interactions between early peer experiences, schema development, shame and eating disorders that require longitudinal experimental designs to fully explore. This cross sectional study suggests that there may be value in pursuing such longitudinal studies.

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Table 1. Summary statistics for questionnaire scores

	<i>N</i>	Mean	Standard Deviation	Median	Range
ESS Total	52	3.21	0.68	3.45	1-4
<i>Character</i>	52	3.13	0.74	3.38	1-4
<i>Behaviour</i>	52	3.16	0.73	3.44	1-4
<i>Body</i>	52	3.39	0.72	3.5	1-4
<i>Eating</i>	52	3.49	0.86	4.0	1-4
HADS	52	15.40	3.69	16.00	6 - 21
Anxiety					
HADS	52	10.52	5.15	10.50	1 - 20
Depression					
PBI Maternal	52	19.58	9.33	21.00	0 - 36
Care					
PBI Maternal	52	16.13	8.11	15.50	1 - 33
Protection					
PBI Paternal	52	16.63	9.81	16.00	0 - 35
Care					
PBI Paternal	52	15.20	8.15	16.00	0 - 31
Protection					
EDDS	52	44.17	18.07	42.00	13 - 82
Symptom					
Composite					
YSQ Social	51	4.06	1.24	4.1	1 – 6
Isolation					

ESS = Experience of Shame Scale; HADS = Hospital Anxiety and Depression scale; PBI = Parental Bonding Inventory; EDDS = Eating Disorders Diagnostic Scale; YSQ = Young Schema Questionnaire Social Isolation Subscale

Table 2: Correlations of all study measures

	2	3	4	5	6	7	8	9	10	11	12	13
1. ESS Total	.92**	.91**	.82**	.80**	.44**	.49**	-.06	.05	-.07	.19	.43**	.67**
2. ESS Character		.76**	.63**	.68**	.44**	.53**	-.01	.07	-.11	.20	.37**	.61**
3. ESS Behaviour			.71**	.64**	.37**	.40**	-.13	.13	-.14	.26	.41**	.63**
4. ESS Body				.74**	.17	.35**	-.07	.00	.13	.03	.31*	.54**
5. ESS Eating					.23*	.28*	.02	-.17	.00	-.02	.37**	.41**
6. HADS A						.57**	.01	.01	-.04	.14	.35*	.37**
7. HADS D							-.34*	.23	-.15	.17	.39**	.64**
8. PBI Maternal Care								-.36**	.21	-.16	-.11	-.46**
9. PBI Maternal Overprotection									.11	.44**	-.04	.23
10. PBI Paternal Care										-.12	-.23*	-.12
11. PBI Paternal Overprotection											.01	.24
12. EDDS Symptom Composite												.35*
13. YSQ Social Isolation												

ESS = Experience of Shame Scale; HADS = Hospital Anxiety and Depression scale; PBI = Parental Bonding Inventory; EDDS = Eating Disorders Diagnostic Scale; YSQ = Young Schema Questionnaire Social Isolation Subscale

Table 3: Stepwise Regression Model and Statistics for Dependent Variable (ESS Total Score)

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.	R ²	Adj. R ²	F
	B	Std. Error	Beta					
1								
(Constant)	1.949	.095		20.616	.000			
YSQ-SI	-.136	.022	-.655	-6.073	.000	.429	.418	36.877
2								
(Constant)	2.195	.140		15.661	.000			
YSQ-SI	-.161	.024	-.779	-6.682	.000			
PBI mC	-7.31E-03	.003	-.269	-2.304	.026	.486	.465	22.715
3								
(Constant)								
YSQ-SI	2.257	.138		16.349	.000			
PBI mC	-.143	.025	-.692	-5.787	.000			
EDDS	-6.94E-03	.003	-.255	-2.265	.028			
(Symp. Comp)	-3.25E-03	.001	-.231	-2.165	.035	.533	.503	17.870